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was to the fly to be thus fooled had never been made clear to him. In the case of this fungus, however, it would hardly be contended that the flies had been deceived for the purposes of fertilization, nor could he understand why "in-and-in breeding," if bad for phænogams, should not be injurious to a fungus as well.

OCTOBER 10.

Mr. VAUX, Vice-President, in the chair.

Thirty-two members present.

Destructive Coleoptera.—Dr. LE CONTE mentioned that a small Coleopterous insect had recently proved quite destructive to carpets in houses in Albany and neighboring towns in New York. Mr. J. A. Lintner had sent him some specimens of the larvæ a few weeks ago, which proved to belong to some species of Dermestidæ, of unfamiliar form. Recently Mr. Lintner succeeded in rearing one of the larvæ, and sent the imago for examination. It was immediately recognized as *Anthrenus scrophulariæ*, a very common European species, not before reported as occurring in the United States. Herbst, Käfer, vii. 328, mentions that the larvæ destroy natural history collections, clothes, furs, leather, and edibles (Esswaaren).

Remarks on the Structure of Precious Opal.—Prof. LEIDY stated that Signor A. G. Arevalo, proprietor of one of the opal mines in Queretaro, Mexico, had recently called upon him, and exhibited a large collection of cut opals of various kinds, comprising the milk-white opal with a rich harlequin display of colors, the less valued transparent glassy variety with rich hues, and the red fire opal of different shades, also displaying the play of colors of the spectrum. From among them he had selected several which he exhibited to the Academy as illustrating in an unusually distinct manner the structure of the precious opal.

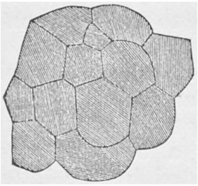


Fig. 1.

One of the specimens is white opal, emiting on one side from the free surface a brilliant display of colors. These are reflected from facets ranging from ¼ to 1 mm. in breadth, and of irregular polyhedral form, as represented in figure 1. The facets are distinctly separated by fissures, which, in the polishing of the stone, have become more or less filled with dirt, and they appear to form the surface of a mosaic pavement laid on a basis of amorphous opal, of which the other side of the specimen consists. The facets are distinctly striate; the striæ being parallel on the same facet, but changing in direction on the different ones, though pursuing the same general course over comparatively large areas, as represented in the same figure. The striæ, or tubes as Sir David Brewster considered them to be, vary in degree of fineness; some apparently being double or more the thickness of others. He had not attempted to measure them accurately, but they appear to be about the size of the lines in the ordinary micrometer eye-piece of the microscope. There appeared usually to be about 4 or 5 striæ in the space of $\frac{1}{40}$th of a mm.

Another specimen is a dark carnelian-hued fire-opal, which exhibits in directly looking upon it, just beneath the surface, a patch of round or oval spots of a deeper hue. The spots range from $\frac{1}{4}$th to 1 mm. in breadth, and are separated by interspaces from $\frac{1}{8}$th to $\frac{3}{8}$th of a mm. The appearance of a portion of the specimen magnified is represented in figure 2. The spots appear as lenticular disks with finely striated surfaces; the striæ being parallel, and on the different spots pursuing nearly the same course. Viewed at a certain angle, they mainly emit a rich golden-green hue.

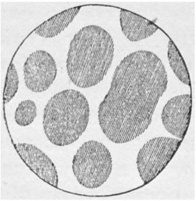


Fig. 2.

In another opaque white specimen, emitting rich hues, the striated facets are more or less isolated by amorphous opal, and vary much in size, as represented in the magnified figure 3. The smaller facets are generally irregularly oval; the larger ones appear to be made up of an aggregate of the smaller kind. Over comparatively large areas, the striæ of the different facets pursue nearly the same direction, but in contiguous areas they even pursue quite opposite directions, as represented in figure 3. On the larger patches, also, as I have attempted to represent them, the striæ are not perfectly continuous, but appear to be rather interrupted in bands. On another part of the same opal the brilliant patches would appear to pertain to cylindroid or fusiform rods of the striated opal imbedded in amorphous opal, as represented in figure 4. The striæ in these rods appear to be arranged in regular parallel layers, so that either longitudinal or transverse sections give rise to the appearance of parallel striæ.

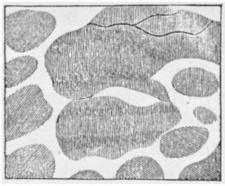


Fig. 3.

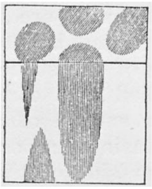
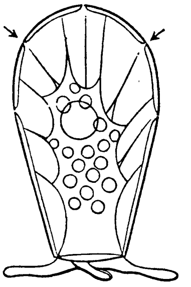


Fig. 4.

From these specimens precious opals would appear to be constituted of an aggregation of particles of a striated or finely tubular structure which may be imbedded in a basis of more amorphous opal. When isolated by the latter, the particles may appear as lenticular disks, round or oval balls, or cylindrical rods with rounded ends and of variable length. When closely aggregated, these particles become more or less polyhedral. The particles in section in any direction present a striated appearance, and, according to the varying fineness of the striæ, and their inclination, emit the varied hues for which the precious opal is so much admired.

Observations on Rhizopods.—Prof. Leidy stated that last July, in the sphagnum swamps of Tobyhanna, Pocono Mt., Monroe Co., Pa., he noticed an abundance of a Rhizopod which he thought he had not previously seen, and which he at first supposed to be an undescribed species, but which he now viewed as a variety of *Hyalosphenia ligata*. From this, as previously described, it differs in the test being of a pale sienna color, and perhaps of greater thickness, but otherwise is like it. The test is compressed pyriform, with the length and breadth nearly or about equal, and the thickness one-half. The lateral borders are obtusely rounded. The mouth is transversely oval. The sarcode is colorless, and attached to the inside of the test by diverging threads. The pseudopods are usually from two to three. Measurements, .08 mm. long and broad, and .036 thick, with the mouth .02 broad and .008 wide. Others varied from .06 long and .08 broad, to .092 long by .064 broad.

In observing the Pocono variety of *Hyalosphenia ligata*, and the beautiful and well-marked species *Hyalosphenia papilio*, he detected an important point of structure which previously had escaped his notice. In the active condition of these, and other Difflugians, they are seen with one or more pseudopods extended from the mouth of the test, to the margin of which the sarcode is attached, as well as by diverging threads to various points of the interior of the test. The interval between the body of the sarcode and the interior of the test is occupied with water. The extent of the interval increases with the increase in number and extent of protrusion of the pseudopods, and also varies according to the degree of emptiness or repletion with food of the sarcode body. When the pseudopods are withdrawn into the mouth of the test, the mass of the sarcode expands in a corresponding ratio, and the threads of attachment to the inside of the test contract in length. The intervening water appears to be displaced through small apertures of the lateral borders and fundus of the test, which exist in numbers usually from two to half a dozen or more, as represented in the figure.



Hyalosphenia papilio. The arrows are directed to two of the apertures through which the water escapes when the animal retracts its pseudopods.

While speaking of Rhizopods, he would ask the indulgence of the Academy to listen to some remarks on recent observations on the habits of several species of Amœba.

One of the species of Amœba which he had most commonly seen, he took to be the